



## UvA-DARE (Digital Academic Repository)

### Putting things in perspective. Young people's susceptibility to the effects of sexual media content

van Oosten, J.M.F.

**Publication date**

2015

**Document Version**

Final published version

[Link to publication](#)

**Citation for published version (APA):**

van Oosten, J. M. F. (2015). *Putting things in perspective. Young people's susceptibility to the effects of sexual media content*. [Thesis, fully internal, Universiteit van Amsterdam].

**General rights**

It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

**Disclaimer/Complaints regulations**

If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: <https://uba.uva.nl/en/contact>, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.

Chapter 5

**SEXUALLY EXPLICIT INTERNET MATERIAL AND  
ADOLESCENTS' SEXUAL UNCERTAINTY:  
THE ROLE OF DISPOSITION-CONTENT CONGRUENCY**



**Abstract**

Previous research has suggested that adolescents' exposure to sexually explicit internet material (SEIM) may result in sexual uncertainty because the content of SEIM may conflict with what adolescents have learned about sex. However, we do not know which type of adolescent is most susceptible to the relation between SEIM use and sexual uncertainty. This study therefore investigated whether the relationship between SEIM use and sexual uncertainty depends on within-gender differences in sexual dispositions (i.e., impersonal sex orientation and hypergendered orientation). Using data from a representative two-wave panel survey among 1,765 Dutch adolescents (aged 13-17), we found that only among girls with a low hypergendered orientation, SEIM use predicted sexual uncertainty. The relationship between the use of SEIM and sexual uncertainty did not depend on the congruency with adolescent girls' impersonal sex orientation.

A revised version of this chapter is currently resubmitted to *Archives of Sexual Behavior* as:

Johanna M.F. van Oosten, Jochen Peter & Inge Boot. Sexually explicit internet material and adolescents' sexual uncertainty: The role of disposition-content congruency.

## CHAPTER 5

Sexually explicit internet material (SEIM) is increasingly considered an influence on adolescent sexuality, given its high amount of sexual content and the high number of adolescents who encounter such material online (for a review, see Owens, Behun, Manning, & Reid, 2012). About 93% of boys and 62% of girls have encountered SEIM before the age of 18 (Sabina, Wolak, & Finkelhor, 2008). Moreover, in a representative US survey, 34% of adolescents between the ages of 13-17 reported that they had deliberately watched SEIM, often out of sexual curiosity (Wolak, Mitchell, & Finkelhor, 2007). SEIM is typically defined as material on or from the internet that is intended to arouse the recipient, including the explicit, unconcealed depiction of (aroused) genitals and sexual activities, such as oral sex and anal or vaginal penetration (Peter & Valkenburg, 2009).

Several scholars have pointed out that the sexual content that adolescents encounter may conflict with beliefs about sexuality that adolescents have adopted from families, schools, and peers (e.g., Arnett, 1995; Thornburgh & Lin, 2002; Wolak et al., 2007). In this context, researchers have recently started to pay attention to the *sexual uncertainty hypothesis* (Sparks, 2013). According to this hypothesis, adolescents will react with sexual uncertainty when they are confronted with sexual material, such as SEIM, that is in conflict with their sexual socialization (Peter & Valkenburg, 2008, 2010). Sexual uncertainty refers to being unclear about one's sexual beliefs and values, and may show in poorly integrated, unclearly defined, and temporally unstable sexual beliefs (Peter & Valkenburg, 2008).

118

Although the sexual uncertainty hypothesis has initially been supported empirically (Peter & Valkenburg, 2008, 2010), the relationship between SEIM use and sexual uncertainty is still understudied. In particular, it is unclear which types of adolescents are most susceptible to the influence of SEIM on sexual uncertainty. Previous research on the sexual uncertainty hypothesis has focused on differences between boys and girls (i.e., between-gender differences), assuming that girls are expected to experience the largest clash between the content in SEIM and their gender-specific socialization. Results on such between-gender differences, however, have been inconsistent (Peter & Valkenburg, 2010). One potential explanation for these inconsistencies is that it may not be sufficient to look at between-gender differences as not all girls or boys are the same.

Recent media-effects models have emphasized congruency effects between content and individual dispositions that vary *within* gender, such as attitudes and beliefs (Valkenburg & Peter, 2013). This focus in recent theorizing merges with research on the effects of sexually explicit material among adults, which have consistently been found to depend on (within-gender) differences in sexual dispositions (Kingston, Malamuth, Fedoroff, & Marshall, 2009; Malamuth, Addison, & Koss, 2000). However, such within-gender differences in effects of sexual content have not been investigated among adolescents. Since forming a stable sense of a sexual self is one of the main tasks of adolescence, it is not only important to know that SEIM use can hinder this task by increasing sexual uncertainty, but – even more importantly – to also know which *type* of adolescent is most susceptible to this influence of SEIM. The present study therefore aimed to investigate for which type of adolescents the relation between SEIM use and adolescents' sexual uncertainty occurs, focusing on within-gender differences in impersonal sex orientation and hypergendered orientation.

### **Individual Dispositions and the Congruency with SEIM**

Typically, researchers have proposed that whether adolescents experience congruency with SEIM depends on adolescents' gender (Peter & Valkenburg, 2010): As SEIM seems more congruent with male socialization than with female socialization (Peter & Valkenburg, 2010), girls may react with more sexual uncertainty to SEIM than boys do. This expectation is based on the *social construction-of-sexuality perspective*, which states that male and female adolescents undergo a different sexual socialization (Peter & Valkenburg, 2010). For instance, having sex outside of a committed relationship is still more acceptable for boys than for girls (Allen et al., 2007). Moreover, by and large girls are not expected to act sexually or act on their sexual impulses, whereas boys are typically allowed, or expected, to initiate sex and to be sexually dominant (e.g., Allen et al., 2007; Tolman, 2002). As SEIM often portrays casual sex, sexual objectification of women, and male sexual dominance (for content analyses, see: Bridges, Wosnitzer, Scharrer, Sun, & Liberman, 2010; Brosius, Weaver, & Staab, 1993), the content in SEIM may thus be congruent with male socialization but not with female socialization.

However, according to the Differential Susceptibility to Media-effects Model (DSMM, Valkenburg & Peter, 2013), effects of media use can also depend on

## CHAPTER 5

pre-existing differential-susceptibility variables, including dispositional susceptibility variables such as personality, cognitions, values, attitudes, and beliefs (Valkenburg & Peter, 2013). These variables may differ just as much within gender as they do between genders. The lack of between-gender differences in previous research on the relationship between SEIM use and sexual uncertainty may thus be the result of the variance in dispositional susceptibility among adolescents.

The way in which dispositional susceptibility variables affect the relationship between the use of SEIM and sexual uncertainty is specified within the DSMM by the *disposition-content congruency hypothesis*. The disposition-content congruency hypothesis generally posits that media-effects depend on the congruency between media content and one's dispositions. Specifically, the model predicts that media content that matches one's dispositions (i.e., congruent media content) reinforces existing mental schemata (Valkenburg & Peter, 2013). Although not explicitly predicted in the DSMM, disposition-content congruency effects may also imply that when media content does not match one's dispositions, existing schemata may be challenged. Specifically, it can be expected that being exposed to content in SEIM that is incongruent with adolescents' dispositions may reduce the certainty with which adolescents hold their sexual beliefs and values.

120

---

In line with the notion of disposition-content congruency effects, research on the Confluence Model (Kingston et al., 2009; Malamuth et al., 2000; Malamuth, Hald, & Koss, 2012) has suggested that effects of sexually explicit material on adult men specifically depend on the congruency between such material and sexual dispositions that differ among men, that is, the tendency to have an impersonal and hypergendered orientation towards sex (e.g., Malamuth et al., 2000, 2012). Similarly, in an extension of the Confluence Model to non-aggressive explicit sexual media content and women, a recent study has found that women with an impersonal sex orientation evaluated a person engaging in casual sex more positively than did women without an impersonal sex orientation (Boot, Peter, & van Oosten, 2014). Finally, first evidence has emerged that women with an hypergendered orientation respond less critically to sexually explicit material than women who do not have an hypergendered orientation (van Oosten, Peter, & Boot, 2014).

Having an impersonal sex orientation refers to the degree to which one believes that sexual relations without emotional bonding and relational commitment are acceptable (Malamuth et al., 2000; Malamuth, Linz, Heavey, Barnes, & Acker, 1995). Having a hypergendered orientation encompasses the *hypermasculinity* concept for men and the *hyperfemininity* concept for women (Hamburger, Hogben, McGowan, & Dawson, 1996; Kreiger & Dumka, 2006). Hypermasculinity refers to men's tendency to engage in hostile and dominant behavior (Mosher & Sirkin, 1984). Hyperfemininity refers to women's acceptance of female objectification and male dominance, and the importance of being physically attractive in order to attract men (Murnen & Byrne, 1991).

Content analyses point to some congruency between the content in SEIM and the impersonal sex orientation and hypergendered orientation. In line with impersonal sex orientation, sexually explicit material depicts sex as occurring predominantly between uncommitted partners, with women typically being portrayed as easily available (Brosius et al., 1993; Cowan, Lee, Levy, & Snyder, 1988; Ertel, 1990). Corresponding with hypergendered orientation, male sexual dominance and female sexual subordination are frequently featured in sexually explicit material (Bridges et al., 2010; Brosius et al., 1993; Cowan & Campbell, 1994; Cowan et al., 1988; Gorman, Monk-Turner, & Fish, 2010).

Thus, given the frequent themes in SEIM, adolescents' high levels of impersonal sex orientation and hypergendered orientation are likely to be congruent with the content of SEIM. Conversely, low levels of impersonal sex orientation and hypergendered orientation are likely to be incongruent with the content in SEIM. Extending previous predictions that the relationship between SEIM use and sexual uncertainty would only hold for girls (Peter & Valkenburg, 2010), we therefore expected that the lack of congruency between sexual content and impersonal sex orientation and hypergendered orientation would further boost the relationship between SEIM use and sexual uncertainty for girls. Specifically, as girls with low levels of impersonal sex orientation and hypergendered orientation are most likely to experience incongruence between SEIM and their dispositions, they are most likely to respond with sexual uncertainty to SEIM. In contrast, as girls with high impersonal sex orientation and hypergendered orientation likely experience some congruence between SEIM and their sexual dispositions, they are not expected to respond with sexual uncertainty. More specifically, we hypothesized: SEIM use will be associated with sexual uncertainty

## CHAPTER 5

among girls with (H1a) a low impersonal sex orientation and (H1b) a low hypergendered orientation, as opposed to girls with a high impersonal sex orientation and a high hypergendered orientation.

It is important to note that our hypothesis also implies that the previously predicted between-gender differences depend on within-gender differences in sexual dispositions, such that girls are only expected to differ from boys when they have low levels of impersonal sex orientation and hypergendered orientation.

### Method

#### Sample and Procedure

We analyzed data from a two-wave longitudinal panel survey that was conducted among a nationally representative sample of Dutch adolescents (aged 13-17; 50% male) in May and June 2013 (wave 1) and November and December 2013 (wave 2) by Veldkamp, a Dutch survey institute. Respondents were randomly selected from a pool of respondents, which was originally sampled randomly among the Dutch population and is continuously updated.

122

— Unlike in many online access panels, our sample thus does not suffer from snowballing effects in the sampling process and self-selection biases in the survey. The response rate of the first wave was 78%, the response rate of the second wave was 83% (attrition 17%), resulting in a final sample of 1,765 participants.

Ethical approval from the University of Amsterdam, as well as informed consent of the adolescents' parents, were obtained before the start of the study. Respondents were asked to complete an online survey at home. For sensitive issues such as sexuality, online surveys have been shown to be a useful alternative to other survey modes (Mustanski, 2001). Respondents were notified that the study was about sexual issues, that they could stop at any time they wished, and that the principal investigators could not trace identifying information. After completion of each wave, the respondents received a voucher worth five Euro.

## Measures

With the exception of SEIM use, the variables in this study were measured on 7-point scales ranging from 1 (*agree entirely*) to 7 (*disagree entirely*). Items were recoded such that higher scores indicated higher scores of each variable. In the questionnaire, the order of items was randomized.

**SEIM Use.** We used a measure of SEIM use that had shown to be a valid and reliable measure in earlier studies on the relationship between SEIM use and sexual uncertainty (Peter & Valkenburg, 2008, 2010). Respondents were asked to indicate how often in the previous 6 months they had intentionally looked at sexual content on their computer, either online or offline (i.e., downloaded material). Respondents were notified that the question was about pornographic internet material, not nudity. Sexual content was specified as (a) pictures with clearly exposed genitals, (b) movies with clearly exposed genitals, (c) pictures in which people were having sex, and (d) movies in which people were having sex. For each type of sexual content, the response categories ranged from 1 (*several times a day*) to 7 (*never*). Items were recoded so that higher scores indicated more frequent use of SEIM. The items formed a unidimensional scale with an explained variance higher than 88% and a Cronbach's alpha higher than .95 in both waves ( $M = 1.66$ ,  $SD = 1.19$  in wave 1;  $M = 1.72$ ,  $SD = 1.24$  in wave 2).

**Sexual Uncertainty.** We used a six-item measure of sexual uncertainty that was developed to measure the extent to which adolescents are unclear about their sexual beliefs and values (Peter & Valkenburg, 2008, 2010). An example item is "As far as sex is concerned I am not sure about what I like and what I dislike." In both waves, the items loaded on one factor (explained variance > 70%) and formed a reliable scale (Cronbach's alpha > .85;  $M = 3.13$ ,  $SD = 1.34$  in wave 1;  $M = 3.04$ ,  $SD = 1.33$  in wave 2).

**Hypergendered Orientation.** The hypergendered orientation measure was based on items from the Hyperfemininity Scale (Murnen & Byrne, 1991) for girls and on the Hypermasculinity Index (Mosher & Sirkin, 1984) for boys. We took the 6 items with the highest corrected item-total correlations from a previous pilot study among female ( $N = 77$ ) and male ( $N = 36$ ) undergraduate students, and changed the forced-choice format of the items into a Likert-scale format. When necessary, original items with an adult bias were modified into items appropriate for adolescents, retaining their original meaning.

## CHAPTER 5

An example item for female respondents was “It’s OK if a boy acts a little dominant towards me.” In both waves, the hyperfeminine items loaded on one factor (explained variance > 55%), and formed a reliable scale (Cronbach’s alpha > .83,  $M = 3.53$ ,  $SD = 1.26$  in wave 1;  $M = 3.46$ ,  $SD = 1.32$  in wave 2). An example item for male respondents was “Those who can, fight. Those who can’t fight, run away.” The hypermasculine items loaded on one factor (explained variance > 54%), and formed a reliable scale in both waves (Cronbach’s alpha > .83,  $M = 3.39$ ,  $SD = 1.32$  in wave 1;  $M = 3.33$ ,  $SD = 1.29$  in wave 2).

The measures of hyperfeminine orientation and hypermasculine orientation (wave 1) were both significantly (*all*  $p$ ’s < .001) – and in similar ways – related to the other main variables in the study and were therefore combined in one hypergendered orientation score ( $M = 3.46$ ,  $SD = 1.29$  in wave 1;  $M = 3.39$ ,  $SD = 1.31$  in wave 2).

**Impersonal sex orientation.** We used an adjusted version of the Sociosexual Orientation Inventory (SOI, Simpson & Gangestad, 1991) that had been used as a measure of impersonal sex orientation in previous research (Boot, Peter, & van Oosten, 2014; Jacques-Tiura, Abbey, Parkhill, & Zawacki, 2007). The three items from the attitudinal subscale of the SOI (Penke & Asendorpf, 2008) were changed into four items, which were adjusted somewhat to make them more suitable for adolescents. An example item was “It is okay to hook-up with different people at a time.” The items loaded on one factor (explained variance > 74%), showed good internal consistency ( $\alpha > .88$ ), and were therefore averaged to form the impersonal sex orientation scale ( $M = 2.24$ ,  $SD = 1.28$  in wave 1;  $M = 2.29$ ,  $SD = 1.34$  in wave 2).

**Control variables.** We controlled for the following variables that had been shown to influence sexual uncertainty in previous research as well as in our data; age (Hensel, Fortenberry, O’Sullivan, & Orr, 2011), religiosity (McMillen, Helm, & McBride, 2011), sexual experience (Lindgren, Schacht, Mullins, & Blayney, 2011), and social comparison orientation (VanYperen & Buunk, 1991). Age was measured in years ( $M = 14.95$ ,  $SD = 1.41$ , in wave 1). The operationalization and (psychometric) properties of all multiple-item scales that were used as control variables are shown in the Appendix.

### Data Analysis

We tested our hypotheses by analyzing three-way interactions in an auto-regression analysis with sexual uncertainty as the dependent variable. The control variables, the independent variables at wave 1 and wave 2, sexual uncertainty at wave 1, and all lower and higher order interactions between SEIM use, gender and either impersonal sex orientation or hypergendered orientation were entered as predictors in the regression model. Post-hoc probing of the three-way interaction was done by using simple slope analyses as well as slope difference tests (Dawson & Richter, 2006). All variables were mean-centered before the regression analyses to reduce scale invariance and multicollinearity (Aiken & West, 1991).

### Results

In contrast to Hypothesis 1a, we did not find a significant three-way interaction between SEIM use (wave 1), gender and impersonal orientation (wave 1) on sexual uncertainty (wave 2),  $\beta = .09$ ,  $B = .11$ ,  $SE = .06$ ,  $p = .05$ . Hypothesis 1a was not supported. In line with Hypothesis 1b, however, we did find a significant three-way interactions between SEIM use (wave 1), gender and hypergendered orientation (wave 1) on sexual uncertainty (wave 2),  $\beta = -.10$ ,  $B = -.16$ ,  $SE = .07$ ,  $p = .03$ . The three-way interaction suggested that the positive relationship between SEIM use and sexual uncertainty would hold only for girls with a low hypergendered orientation, as predicted in H1b (see Figure 1).

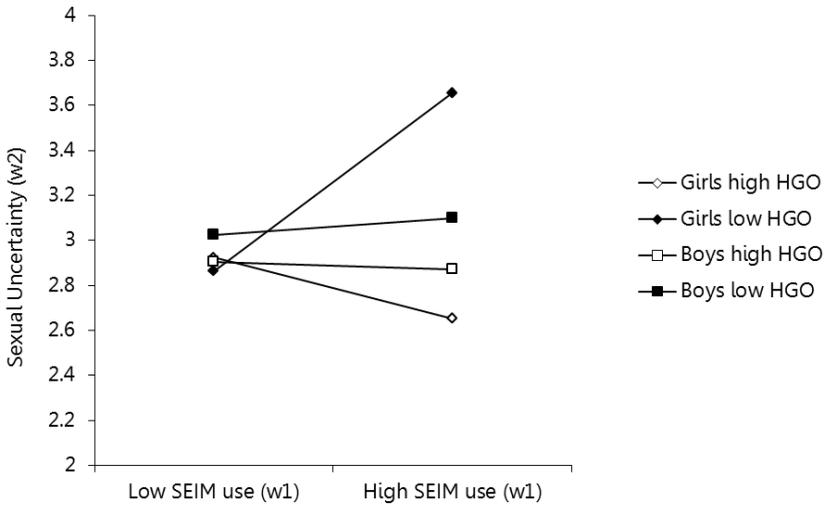
125

To test H1b rigorously, we post-hoc probed this interaction effect. Specifically, we conducted simple slope analyses for girls (and boys) with high (1 SD above the mean) and low (1 SD below the mean) levels of hypergendered orientation (see Table 1 for simple slope coefficients). The slope difference test showed that the within-gender difference between girls with a low and a high hypergendered orientation was significant,  $t(1,745) = -2.53$ ,  $p = .01$ .

H1b also implied that only girls with a low, as opposed to high, hypergendered orientation would differ from boys in the relationship between SEIM use and sexual uncertainty. To test this implication, we conducted slope difference tests for the relationship between SEIM use and sexual uncertainty between boys and girls with low and high levels of hypergendered orientation. Girls with a low hypergendered orientation differed from boys with a high hypergendered orientation,  $t(1,745) = 2.21$ ,  $p = .03$ , but not from boys with a low

## CHAPTER 5

hypergendered orientation,  $t(1,745) = 1.93, p = .05$ . Girls with a high hypergendered orientation did not differ from boys with a high hypergendered orientation,  $t(1,745) = -1.08, p = .28$ , nor from boys with a low hypergendered orientation,  $t(1,745) = -1.60, p = .11$ .



126

*Figure 1.* The relationship between SEIM use and sexual uncertainty, for low (- 1 SD from the mean) and high (+ 1 SD from the mean) hypergendered orientation (HGO) scores for boys and girls.

*Note.* Low and high SEIM use refer to frequency scores of SEIM use of 1 SD below and 1 SD above the mean.

**Table 1.**

Simple Slope Coefficients of the Three-Way Interaction Between SEIM Use (Wave 1), Gender and Hypergendered Orientation (Wave 1) on Sexual Uncertainty (Wave 2)

	<i>B</i>	<i>t</i> (1,745)
Girls high HGO	-0.11	-1.41
Girls low HGO	0.33*	2.20
Boys high HGO	-0.01	-0.26
Boys low HGO	0.03	0.64

\* $p < .05$

### Discussion

This study aimed at extending previous research on the sexual uncertainty hypothesis (Peter & Valkenburg, 2010; Sparks, 2013). Specifically, we focused on which types of adolescents are most susceptible to the influence of SEIM on sexual uncertainty. The relationship between SEIM use and sexual uncertainty had previously been expected to differ between girls and boys (Peter & Valkenburg, 2010). We found, however, that the relationship between SEIM use and sexual uncertainty only held for girls with a low hypergendered orientation. As a result, between-gender differences were conditional on adolescents' level of hypergendered orientation: girls with a low hypergendered orientation differed from boys with a high hypergendered orientation. Girls with a high hypergendered orientation did not differ from boys. We did not find any effects for impersonal sex orientation. One explanation may be that the majority of adolescents is not engaging in impersonal, casual sex (Fortunato, Young, Boyd, & Fons, 2010). Because the casual sex shown in SEIM may not relate to their direct experience, it may also not influence their certainty about sex, regardless of whether adolescents accept casual sex (i.e., have an impersonal sex orientation).

### Implications for Research on SEIM use and Differential Susceptibility

The present study sheds new light on the relationship between SEIM use and sexual uncertainty. This relationship had previously been expected to differ between girls and boys (Peter & Valkenburg, 2010). We found, however, that girls did not differ from boys with a similar orientation towards sex in the relationship between SEIM use and sexual uncertainty. Rather, this relationship differed mostly between girls with a low and a high hypergendered orientation. These findings merge with calls for more attention to differential susceptibility to media-effects, both in media-effects research in general (Valkenburg & Peter, 2013), and in research on SEIM use in particular (Kingston et al., 2009; Malamuth et al., 2000).

With regard to the disposition-content congruency hypothesis (Valkenburg & Peter, 2013), the relationship between SEIM use and sexual uncertainty thus depends on the level of congruency between the sexual content and sexual dispositions, in this case adolescents' hypergendered orientation, at least for girls. Future research may investigate whether this relationship further depends on other susceptibility variables stated in the DSMM (i.e., social and

## CHAPTER 5

developmental susceptibility variables, Valkenburg & Peter, 2013), for both genders. For instance, the relationship between SEIM use and sexual uncertainty may also depend on the congruency between SEIM and adolescents' social context and physical maturation.

The present study also showed that individual susceptibility variables (i.e., gender and sexual beliefs) can interact in determining the strength of the relation between the use of sexual media and uncertainty. Although the DSMM does not preclude that dispositional susceptibility variables can interact, it has not explicitly conceptualized such interactions (Valkenburg & Peter, 2013). The present findings thus suggest that the DSMM may be extended by incorporating interactions between dispositional susceptibility variables. Such an extension of the DSMM may be particularly useful in the context of research that has focused on the role of multiple individual-difference variables in the emergence of media-effects.

128  
— Moreover, the finding that within-gender differences in the relationship between sexual media use and sexual uncertainty were most profound for girls suggests that, when it comes to sexual media content, girls may be more susceptible to disposition-content congruency than boys are. One explanation for this greater susceptibility may be that girls often receive contradictory messages about femininity and female sexuality (e.g., "be sexy but not sexual", Tolman, 2002). As a result, girls may be more preoccupied with figuring out what kind of sexual behavior is expected of them. To this end, they may pay more attention to the specific messages in sexual media content. This may, in turn, increase their susceptibility to influences of sexual media content (Ward, 2003), in particular in relation to their sexual uncertainty. This idea seems to be in line with earlier research on sexual uncertainty in which girls who watched more SEIM were more involved in SEIM, and this involvement in turn predicted sexual uncertainty (Peter & Valkenburg, 2010).

Finally, given our findings on within-gender differences, our findings seem to be particularly relevant to the Confluence Model (Kingston et al., 2009; Malamuth et al., 2000, 2012). The present study suggests that the Confluence Model can be meaningfully extended in at least three ways. First, this study is the first to show that congruency effects that were previously found among adults also occur among adolescents, at least when it comes to the congruency between SEIM

and (girls') hypergendered orientation. Second, whereas the Confluence Model has focused on individual susceptibility to effects of sexual material due to high levels of impersonal sex orientation and hypermasculinity, the present study suggests that such susceptibility can in some cases also depend on *low* levels of hypergendered orientation. Finally, sexual dispositions can influence the relationship between SEIM use and other outcome variables than sexual aggression (i.e., sexual uncertainty).

### **Limitations and Conclusion**

One limitation of the present study concerns the generalizability of our findings to other cultural contexts. The present study was conducted in the Netherlands, a country that is known for its liberal policy both toward adolescent sexuality and sexually explicit material, and in which boys and girls receive a similar sexual socialization (Peter & Valkenburg, 2010). Moreover, in cross-cultural research, the Netherlands is considered a feminine society, which is characterized by greater gender equality than masculine societies (Hofstede, 1998, 2001). This greater gender equality may be related to the absence of between-gender effects for the relationship between SEIM use and sexual uncertainty in previous research (Peter & Valkenburg, 2010), as well as in the present study. Future research should therefore replicate our current findings in more masculine societies, such as the US, as well as in countries in which adolescents receive a more gendered sexual socialization.

129

In conclusion, the present study shows that the relationship between SEIM use and sexual uncertainty depends on sexual dispositions that differ within gender. Whereas it was previously thought that this relationship would be stronger for girls than for boys, this research showed that such susceptibility applies only to a subgroup of girls. This also implies that research on sexual media-effects should take both between-gender differences and within-gender differences in sexual dispositions into account. Only then can we increase our understanding of who is susceptible to the effects of SEIM use on sexual outcomes, such as sexual uncertainty.

## References

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. (pp. 28–48). Thousand Oaks, CA: Sage Publications.
- Allen, M., Emmers-Sommer, T. M., D'Alessio, D., Timmerman, L., Hanzal, A., & Korus, J. (2007). The connection between the physiological and psychological reactions to sexually explicit materials: A literature summary using meta-analysis. *Communication Monographs, 74*, 541–560. doi:10.1080/03637750701578648
- Arnett, J. J. (1995). Adolescents' uses of media for self-socialization. *Journal of Youth and Adolescence, 24*, 519–533. doi:10.1007/BF01537054
- Boot, I., Peter, J., & van Oosten, J.M.F. (2014, online first). Impersonal sex orientation and multitasking influence the effect of sexual media content on involvement with a sexual character. *Media Psychology, 17*, 55–77. doi:10.1080/15213269.2012.742358
- Bridges, A. J., Wosnitzer, R., Scharrer, E., Sun, C., & Liberman, R. (2010). Aggression and sexual behavior in best-selling pornography videos: A content analysis update. *Violence against Women, 16*, 1065–1085. doi:10.1177/1077801210382866
- Brosius, H. B., Weaver, J. B., & Staab, J. F. (1993). Exploring the social and sexual “reality” of contemporary pornography. *Journal of Sex Research, 30*, 161–170. doi:10.1080/00224499309551697
- Cowan, G., & Campbell, R. (1994). Racism and sexism in interracial pornography: A content analysis. *Psychology of Women Quarterly, 18*, 323–338.
- Cowan, G., Lee, C., Levy, D., & Snyder, D. (1988). Dominance and inequality in X-rated videocassettes. *Psychology of Women Quarterly, 12*, 299–311. doi:10.1111/j.1471-6402.1988.tb00945.x
- Dawson, J. F., & Richter, A. W. (2006). Probing three-way interactions in moderated multiple regression: Development and application of a slope difference test. *The Journal of Applied Psychology, 91*, 917–926. doi:10.1037/0021-9010.91.4.917
- Ertel, H. (1990). *Erotika und Pornographie: Repräsentative Befragung und psychophysiologische Langzeitstudie zu Konsum und Wirkung [Erotica and pornography: A representative survey and psycho-physiological longitudinal study on the consumption and effects]*. Munich, Germany: PVU.
- Fortunato, L., Young, A. M., Boyd, C. J., & Fons, C. E. (2010). Hook-up sexual experiences and problem behaviors among adolescents. *Journal of Child & Adolescent Substance Abuse, 19*, 261–278. doi:10.1080/1067828X.2010.488965
- Gorman, S., Monk-Turner, E., & Fish, J. N. (2010). Free adult internet web sites: How prevalent are degrading acts? *Gender Issues, 27*, 131–145. doi:10.1007/s12147-010-9095-7
- Hamburger, M. E., Hogben, M., McGowan, S., & Dawson, L. J. (1996). Assessing hypergender ideologies: Development and initial validation of a gender-neutral measure of adherence to extreme gender-role beliefs. *Journal of Research in Personality, 30*, 157–178. doi:10.1006/jrpe.1996.0011

- Hensel, D. J., Fortenberry, J. D., O'Sullivan, L. F., & Orr, D. P. (2011). The developmental association of sexual self-concept with sexual behavior among adolescent women. *Journal of Adolescence, 34*, 675–84. doi:10.1016/j.adolescence.2010.09.005
- Hofstede, G. (1998). Comparative studies of sexual behavior: Sex as achievement or as relationship? In *Masculinity and femininity: The taboo dimensions of national cultures*. (pp. 153–178). Thousand Oaks, CA: Sage Publications.
- Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviours, institutions and organizations across nations* (2nd ed.). Thousand Oaks, CA: Sage Publications.
- Jacques-Tiura, A. J., Abbey, A., Parkhill, M. R., & Zawacki, T. (2007). Why do some men misperceive women's sexual intentions more frequently than others do? An application of the Confluence model. *Personality and Social Psychology Bulletin, 33*, 1467–1480. doi:10.1177/0146167207306281
- Kingston, D. A., Malamuth, N. M., Fedoroff, P., & Marshall, W. L. (2009). The importance of individual differences in pornography use: Theoretical perspectives and implications for treating sexual offenders. *Journal of Sex Research, 46*, 216–232. doi:10.1080/00224490902747701
- Kreiger, T. C., & Dumka, L. E. (2006). The relationships between hypergender, gender, and psychological adjustment. *Sex Roles, 54*, 777–785. doi:10.1007/s11199-006-9044-9
- Lindgren, K. P., Schacht, R. L., Mullins, P. M., & Blayney, J. A. (2011). Cognitive representations of sexual self differ as a function of gender and sexual debut. *Archives of Sexual Behavior, 40*, 111–120. doi:10.1007/s10508-009-9545-z
- Malamuth, N. M., Addison, T., & Koss, M. (2000). Pornography and sexual aggression: Are there reliable effects and can we understand them? *Annual Review of Sex Research, 11*, 26–91. doi:10.1080/10532528.2000.10559784
- Malamuth, N. M., Hald, G. M., & Koss, M. (2012). Pornography, individual differences in risk and men's acceptance of violence against women in a representative sample. *Sex Roles, 66*, 427–439. doi:10.1007/s11199-011-0082-6
- Malamuth, N. M., Linz, D., Heavey, C. L., Barnes, G., & Acker, M. (1995). Using the confluence model of sexual aggression to predict men's conflict with women: A 10-year follow-up study. *Journal of Personality and Social Psychology, 69*, 353–369. doi:10.1037/0022-3514.69.2.353
- McMillen, E. K., Helm, H. W., & McBride, D. C. (2011). Christian education religious orientation and sexual attitudes and behaviors. *Journal of Research on Christian Education, 20*, 195–206. doi:10.1080/10656219.2011.590755
- Mosher, D. L., & Sirkin, M. (1984). Measuring a macho personality constellation. *Journal of Research in Personality, 18*, 150–163. doi:10.1016/0092-6566(84)90026-6
- Murnen, S. K., & Byrne, D. (1991). Hyperfemininity: Measurement and initial validation of the construct. *Journal of Sex Research, 28*, 479–489. doi:10.1080/00224499109551620
- Mustanski, B. S. (2001). Getting wired: Exploiting the internet for the collection of sexually valid data. *Journal of Sex Research, 38*, 292–301. doi:10.1080/00224490109552100

## CHAPTER 5

- Owens, E. W., Behun, R. J., Manning, J. C., & Reid, R. C. (2012). The impact of Internet pornography on adolescents: A review of the research. *Sexual Addiction & Compulsivity, 19*, 99–122. doi:10.1080/10720162.2012.660431
- Penke, L., & Asendorpf, J. B. (2008). Beyond global sociosexual orientations: A more differentiated look at sociosexuality and its effects on courtship and romantic relationships. *Journal of Personality and Social Psychology, 95*, 1113–1135. doi:10.1037/0022-3514.95.5.1113
- Peter, J., & Valkenburg, P. M. (2008). Adolescents' exposure to sexually explicit Internet material, sexual uncertainty, and attitudes toward uncommitted sexual exploration: Is there a link? *Communication Research, 35*, 579–601. doi:10.1177/0093650208321754
- Peter, J., & Valkenburg, P. M. (2009). Adolescents' exposure to sexually explicit Internet material and notions of women as sex objects: Assessing causality and underlying processes. *Journal of Communication, 59*, 407–433. doi:10.1111/j.1460-2466.2009.01422.x
- Peter, J., & Valkenburg, P. M. (2010). Adolescents' use of sexually explicit Internet material and sexual uncertainty: The role of involvement and gender. *Communication Monographs, 77*, 357–375. doi:10.1080/03637751.2010.498791
- Sabina, C., Wolak, J., & Finkelhor, D. (2008). The nature and dynamics of internet pornography exposure for youth. *Cyberpsychology & Behavior, 11*, 691–693. doi:10.1089/cpb.2007.0179
- Simpson, J. A., & Gangestad, S. W. (1991). Individual differences in sociosexuality: Evidence for convergent and discriminant validity. *Journal of Personality and Social Psychology, 60*, 870–883. doi:10.1037//0022-3514.60.6.870
- Sparks, G. G. (2013). Sexual content in the media. In *Media Effects Research: A Basic Overview*. (4th ed., pp. 122–146).
- Thornburgh, D., & Lin, H. S. (2002). *Youth, pornography, and the Internet. Youth, pornography, and the Internet*. Washington, DC: National Academy Press.
- Tolman, D. L. (2002). *Dilemmas of desire: Teenage girls talk about sexuality*. Cambridge, MA: Harvard University Press.
- Valkenburg, P. M., & Peter, J. (2013). The differential susceptibility to media effects model. *Journal of Communication, 63*, 221–243. doi:10.1111/jcom.12024
- Van Oosten, J. M. F., Peter, J., & Boot, I. (2014, online first). Women's critical responses to sexually explicit material: The role of hyperfemininity and processing style. *The Journal of Sex Research*. doi:10.1080/00224499.2013.858305.
- VanYperen, N., & Buunk, B. (1991). Sex-role attitudes, social comparison, and satisfaction with relationships. *Social Psychology Quarterly, 54*, 169–180. doi:10.2307/2786934
- Ward, L. (2003). Understanding the role of entertainment media in the sexual socialization of American youth: A review of empirical research. *Developmental Review, 23*, 347–388. doi:10.1016/S0273-2297(03)00013-3

Wolak, J., Mitchell, K., & Finkelhor, D. (2007). Unwanted and wanted exposure to online pornography in a national sample of youth Internet users. *Pediatrics*, *119*, 247–257. doi:10.1542/peds.2006-1891

## CHAPTER 5

### Appendix.

Measurements of Control Variables (at Wave 1)

Concept	Item examples	Response Categories	Mean (SD)	Cronbach's $\alpha$ / Pearson's $r$	Explained variance in factor analysis
Religiosity	"I am religious" and "My faith is important to me"	1 (does not apply at all) to 7 (fully applies to me)	2.71 (1.93)	$r = .92$	96%
Sexual experience	Respondents were asked to answer whether they had experience with the following sexual behaviors a) touching each others' genitals, b) giving or receiving oral sex, and c) vaginal intercourse (the latter was changed into 'having sex' for gay, lesbian and undecided adolescents).	yes (coded '1') or no (coded '0')	.14 (.20)	$\alpha = .87$	80%
Social comparison orientation	Four items with the highest factor loadings (on scale Factor 1) from the <i>Iowa-Netherlands Comparison Orientation Measure</i> (Gibbons & Buunk, 1999), e.g., "I always pay a lot of attention to how I do things compared to how others do things". <sup>1</sup>	1 (does not apply at all) to 7 (fully applies to me)	4.33 (1.29)	$\alpha = .87$	72%

134

<sup>1</sup> Gibbons, F., & Buunk, B. P. (1999). Individual differences in social comparison: Development of a scale of social comparison orientation. *Journal of Personality and Social Psychology*, 76, 129–142.